

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1-22. (Cancelled)

23. (New) A method of forming a gas tank filler neck comprising:

configuring a transition portion between relatively large inlet and relatively large outlet of a seamless tubular member to induce a swirl to passing fuel for venting vapors from the gas tank during fuel filling.

24. (New) The method of Claim 23, further comprising rolling over an edge of the inlet to the seamless tubular member.

25. (New) The method of Claim 23, wherein said configuring includes:

drawing a seamless funnel member;

forming the inlet at one end of the seamless funnel member, the inlet having a first axis; and

forming the outlet at the opposite end of the seamless funnel member, the outlet having a second axis offset from the first axis.

26. (New) The method of Claim 25, further comprising:
cutting a length of tubing to form a hose of desired length; and
telescopically joining an end of the hose to the outlet of the seamless funnel member.

27. (New) The method of Claim 26, further comprising:
attaching a nozzle receptor to the seamless funnel member adjacent the inlet.

28. (New) The method of Claim 25, further comprising rolling over an edge of the inlet to the seamless funnel member.

29. (New) A filler neck assembly comprising:
a seamless funnel member having a tubular body defining a larger inlet opening and a smaller outlet opening, the position of the inlet opening relative the outlet opening and an internal configuration of the tubular body between the inlet opening and outlet opening inducing a swirl to and venting vapors from fuel flowing through the tubular body.

30. (New) The filler neck assembly of Claim 29, further comprising a sealing surface formed of the tubular body about the inlet opening.

31. (New) The filler neck assembly of Claim 30, wherein the inlet opening is rolled over to create the sealing surface.

32. (New) The filler neck assembly of Claim 29, wherein the outlet opening is barbed.

33. (New) The filler neck assembly of Claim 29, further comprising a hose bead formed about the outlet opening.

34. (New) The filler neck assembly of Claim 29, further comprising a hose, wherein the outlet opening is attached to the hose.

35. (New) The filler neck assembly of Claim 34, further comprising a vent hole formed on the tubular body.

36. (New) The filler neck assembly of Claim 35, further comprising a vent tube connected to the tubular body about the vent hole.

37. (New) The filler neck assembly of Claim 36, further comprising a fuel tank, the vent tube and the hose connecting the tubular body and the fuel tank.

38. (New) The filler neck assembly of Claim 29, further comprising a fuel supply nozzle positioning receptor disposed in the tubular body.

39. (New) The filler neck assembly of Claim 38, wherein the tubular body includes an attachment portion adjacent to the inlet opening, the positioning receptor being received at the attachment portion.

40. (New) The filler neck assembly of Claim 29, further comprising a hose and a fuel tank, the hose connecting the outlet opening and the fuel tank.

41. (New) The filler neck assembly of Claim 29, further comprising an anticorrosive coating on an exterior surface of the tubular body.

42. (New) The filler neck assembly of Claim 29, wherein the internal configuration of the tubular body between the inlet opening and the outlet opening includes a tapered section of the tubular body.

43. (New) The filler neck assembly of Claim 42, wherein the tapered section includes an elliptically-shaped junction between a first portion of the tubular body including the inlet opening and a second portion of the tubular body includes the outlet opening.

44. (New) The filler neck assembly of Claim 43, wherein the elliptically-shaped junction lies on a plane inclined at an angle to an axis of at least one of the inlet opening and outlet opening.

45. (New) The filler neck assembly of Claim 29, wherein the inlet opening has a diameter D_1 , the outlet opening has a diameter D_2 , and D_1 is at least one and a half times D_2 .

46. (New) The filler neck assembly of Claim 29, wherein the seamless funnel member is formed from a single piece of material.

47. (New) The filler neck assembly of Claim 29, wherein the inlet opening and outlet opening are axially offset.

48. (New) A method of forming a filler neck for a motor vehicle fuel tank comprising:

drawing a seamless funnel member;

forming a relatively large inlet at one end of the funnel member, the inlet having a first axis;

forming a relatively small outlet at the opposite end of the funnel member, the outlet having a second axis offset from said first axis; and

configuring a transition of the tubular body between the inlet and outlet to induce a swirl to and vent vapors from fuel flowing through the funnel member.

49. (New) The method of Claim 48, further comprising:

cutting a length of tubing to form a hose of desired length; and

telescopically joining an end of the hose to the outlet of the funnel member.

50. (New) The method of Claim 49, further comprising:
attaching a nozzle receptor to the funnel member adjacent the inlet.
51. (New) The method of Claim 48, further comprising rolling over an edge of
the inlet to the funnel member.
52. (New) The method of Claim 48, further comprising forming a vent hold in
the funnel member.
53. (New) The method of Claim 52, further comprising connecting a vent tube
about the vent hole and in communication with a fuel tank.
54. (New) The method of Claim 48, further comprising connecting the funnel
member and a fuel tank via a hose.
55. (New) The method of Claim 48, further comprising applying an
anticorrosive coating to the funnel member.
56. (New) The method of Claim 48, wherein said configuring includes forming
an elliptically shaped junction between a first portion of the funnel member including the
inlet and a second portion of the funnel member including the outlet.

57. (New) The method of Claim 56, wherein said forming includes forming the elliptically shaped junction on a plane inclined at an angle to an axis of at least one of the inlet and outlet.

58. (New) The method of Claim 48, wherein said configuring includes forming the inlet with a diameter D_1 and an outlet with a diameter D_2 , wherein D_1 is at least one and one-half times D_2 .